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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,801	08/20/2003	Joseph S. Stam	AUTO 222	9297

28167 7590 07/13/2007

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ART UNIT	PAPER NUMBER
2624	

MAIL DATE	DELIVERY MODE
07/13/2007	PAPER

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

MAILED

JUL 1 3 2007

Technology Center 2600

Application Number: 10/645,801
Filing Date: August 20, 2003
Appellant(s): STAM ET AL.

James E. Shultz Jr.
For Appellants

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 5, 2007, appealing from the Office action mailed September 29, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The Examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The Appellants' statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The Appellants' statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

No evidence is relied upon by the Examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Objections

The following quotation of 37 CFR § 1.75 (d)(1) is the basis of objection:

> (d)(1) The claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description. (See § 1.58(a)).

1. Claim 41 is objected to under 37 CFR § 1.75 (d)(1) as reciting features that are not supported by the *description* of the specification. The Examiner was unable to find an instance in the applicant's description that provides support for the claimed features. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 4-19, 64 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Referring to claim 4, the phrase "wherein <u>at least one output</u> of said neural network comprises <u>at least three states</u>" is not supported by the applicant's specification. While the Applicants' specification provides written description support for vehicle headlamps comprising

three transition states (Specification, paragraph 119), the Examiner was unable to find an instance in the Applicants' specification that provides written description support for an output of a neural network having three states. Thus, the phrase "wherein at least one output of said neural network comprises at least three states" is not sufficiently described by Applicants' specification.

Referring to claim 64, the phrase "threshold number of streetlights per area" is not supported by the Applicants' specification as originally filed.[1] While the Applicants' original specification provides written description support for a "threshold streetlight density," it fails to describe a threshold number of streetlights per area, as claimed. Thus, the phrase "threshold number of streetlights per area" is not sufficiently described by the Applicants' original specification.

Claims not mentioned specifically are dependent from antecedent claims rejected under this paragraph.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

[1] In the amendment filed on April 26, 2005, Applicants amended the phrase "threshold streetlight density" to read "threshold number of streets per area," which is the basis of the 112 first paragraph rejection.

3. Claims 1-3, 40, 42, 44-53, 65-69, 71, 74 are rejected under 35 U.S.C. 102(e) as being anticipated by Breed et al., U.S. Patent No. 6,393,133 ("Breed"). Note that Breed incorporates by reference the article entitled "Learned Classification of Sonar Targets Using a Massively Parallel Network" by Gorman et al. ("Gorman").

Referring to claim 1, Breed discloses an automatic vehicular exterior light control, comprising:

a controller configured to generate at least one exterior light control signal as a function of a classification network, the controller is further configured to execute first algorithm comprising at least one second algorithm selected from the group comprising: an (dim) on state to (dim) off state transition state algorithm and a (dim) off state to (dim) on state transition state algorithm (col. 20, lines 12-38 and figure 8), wherein the classification network is trained using light sources classified using expert knowledge (col. 16, line 66-col. 17, line 19).

Referring to claim 2, Breed further discloses that the network comprises a neural network (col. 20, lines 16-18).

Referring to claim 3, Breed further discloses that the expert knowledge comprises experimental data (training set) [col. 16, line 66-col. 17, line 19 and col. 20, lines 12-38].

Referring to claim 40, see the rejection of at least claim 1 above.

Referring to claim 42, Breed further discloses that the (dim) on state to (dim) off state is entered when at least one light source (reflections off a signpost or the roadway) is detected (col. 20, lines 12-38).

Referring to claim 44, Breed discloses an automatic vehicular exterior light control comprising a method for classifying detected light sources, the method comprising the steps of

classifying at least one detected light source with a classification network, wherein an output of the classification network is indicative of the likelihood that the detected light source is a headlamp of an oncoming vehicle or a tail lamp of a leading vehicle (col. 16, line 66-col. 17, line 19 and col. 20, lines 12-38. Note that if the trained pattern recognition system recognizes the pattern of the headlights of an oncoming vehicle or the tail lights of a leading vehicle, then the output of the classification network would be indicative of a high likelihood that the detected light source is a headlamp of an oncoming vehicle or a tail lamp of a leading vehicle).

Referring to claim 45, Breed further discloses that the determination of the control state of at least one exterior light of the controlled vehicle is based upon the output of the classification network (col. 20, lines 12-38).

Referring to claim 46, Breed further discloses that the network comprises a neural network (col. 20, lines 16-18).

Referring to claim 47, Breed discloses an automatic vehicular exterior light control comprising a method of classifying detected light sources, the method comprising the steps of classifying at least one detected light source with a classification network, wherein the classification network determines the type of light source detected based upon at least one characteristic of at least one previously classified light source verified to be accurately classified by examining statistical data, wherein the statistical data is derived from a plurality of images containing known light sources (col. 16, line 66-col. 17, line 19 and col. 20, lines 12-38. Note that the "training set" used by the neural network for recognizing headlights would comprise of images of known light sources).

Referring to claim 48, see the rejection of at least claim 45 above.

Referring to claim 49, see the rejection of at least claim 46 above.

Referring to claim 50, Breed discloses an automatic vehicular exterior light control comprising a method of classifying detected light sources, the method comprising the steps of classifying at least one detected light source with a trainable classification network, wherein the classification network is trained using at least one light source classified using expert knowledge by examining statistical data, wherein the statistical data is derived from a plurality of images containing known light sources (col. 16, line 66-col. 17, line 19 and col. 20, lines 12-38. Note that the "training set" used by the neural network for recognizing headlights would comprise of images of known light sources).

Referring to claim 51, Breed further discloses that the expert knowledge comprises experimental data (training set) [col. 16, line 66-col. 17, line 19 and col. 20, lines 12-38].

Referring to claim 52, see the rejection of at least claim 46 above.

Referring to claim 53, see the rejection of at least claim 45 above.

Referring to claim 65, Breed discloses an automatic vehicular exterior light control, comprising:

a controller configured to generate at least one exterior light control signal as a function of a classification network comprising at least one weighting factor established by examining statistical data, wherein the statistical data is derived from a plurality of images containing known light sources [col. 16, line 66-col. 17, line 19 and col. 20, lines 12-38. See also Gorman, pages 1135-1139. Breed incorporates by reference Gorman. Gorman explains that the weighting factors are determined by examining statistical data that is derived from images containing known light sources (training set), see page 1136. Note that Gorman's system is used

for analyzing sonar data, and therefore the known data (training set) comprises known sonar values. However, Breed utilizes the trained pattern recognition system to analyze images of light sources. Thus, the known data (training set) in Breed's system would comprise at least one image containing at least one known light source].

Referring to claim 66, Breed further discloses a plurality of inputs and a plurality of weighting factors at least one of which is associated with each input (Gorman, pages 1135-1136. As noted above, Breed incorporates by reference Gorman).

Referring to claim 67, Breed further discloses at least one output that is based upon the sum of the inputs (Gorman, pages 1135-1136. As noted above, Breed incorporates by reference Gorman).

Referring to claim 68, Breed discloses that the neural network analysis further comprises at least one hidden layer node, and at least one weighting factor; wherein each hidden layer node is associated with at least one weighting factor (Gorman, pages 1135-1136. As noted above, Breed incorporates by reference Gorman).

Referring to claim 69, Breed discloses an automatic vehicular exterior light control, comprising:

a controller configured to generate at least one exterior light control signal as a function of a classification network comprising at least one weighting factor established by examining statistical data, wherein the statistical data is derived from a plurality of images containing known light sources and a substantially continuous output value indicative of a probability [col. 16, line 66-col. 17, line 19 and col. 20, lines 12-38. See also Gorman, pages 1135-1139. Breed incorporates by reference Gorman. Gorman explains that the weighting factors are determined

by examining statistical data that is derived from images containing known light sources (training set), see page 1136. Note that Gorman's system is used for analyzing sonar data, and therefore the known data (training set) comprises known sonar values. However, Breed utilizes the trained pattern recognition system to analyze images of light sources. Thus, the known data (training set) in Breed's system would comprise at least one image containing at least one known light source. Moreover, Breed also explains that the weighting factor is established during the learning/training stage by examining statistical data that is derived from a substantially continuous output value indicative of a probability (page 1136)].

Referring to claim 71, Breed discloses an automatic vehicular exterior light control, comprising:

a controller configured to generate at least one exterior light control signal as a function of a classification network comprising at least one variable, at least one weighting factor established by examining statistical data, wherein the statistical data is derived from a plurality of images containing known light sources and at least one output [col. 16, line 66-col. 17, line 19 and col. 20, lines 12-38. See also Gorman, pages 1135-1139. Breed incorporates by reference Gorman. Gorman explains that the weighting factors are determined by examining statistical data that is derived from images containing known light sources (training set), see page 1136. Note that Gorman's system is used for analyzing sonar data, and therefore the known data (training set) comprises known sonar values. However, Breed utilizes the trained pattern recognition system to analyze images of light sources. Thus, the known data (training set) in Breed's system would comprise at least one image containing at least one known light source. Moreover, Breed also explains that the weighting factor is established during the

learning/training stage by examining statistical data that is derived from at least one output (page 1136)].

Referring to claim 74, Breed discloses an automatic vehicular exterior light control, comprising a method of classifying detected light sources, the method comprising the steps of:

classifying at least one detected light source with a classification network, wherein an output of the classification network is a likelihood that said detected light source is a headlamp of an oncoming vehicle or a tail lamp of a leading vehicle wherein the classification network comprises at least one weighting factor established by examining statistical data, wherein the statistical data is derived from a plurality of images containing known light sources [col. 16, line 66-col. 17, line 19 and col. 20, lines 12-38. See also Gorman, pages 1135-1139. Note that if the trained pattern recognition system recognizes the pattern of the headlights of an oncoming vehicle or the tail lights of a leading vehicle, then the output of the classification network would be indicative of a high likelihood that the detected light source is a headlamp of an oncoming vehicle or a tail lamp of a leading vehicle. In addition, Breed incorporates by reference Gorman. Gorman explains that the weighting factors are determined by examining statistical data that is derived from images containing known light sources (training set), see page 1136. Note that Gorman's system is used for analyzing sonar data, and therefore the known data (training set) comprises known sonar values. However, Breed utilizes the trained pattern recognition system to analyze images of light sources. Thus, the known data (training set) in Breed's system would comprise at least one image containing at least one known light source

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 20, 24, 25, 27, 28, 35-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Breed et al., U.S. Patent No. 6,393,133 ("Breed") and Ii et al., U.S. Patent Application Publication No. 2004/0032981 ("Ii").

Referring to claim 20, Breed discloses an automatic vehicular exterior light control, comprising a controller configured to generate at least one exterior light control signal as a function of at a neural network (col. 20, lines 12-38), but does not explicitly disclose that the neural network comprises a probability function having a substantially continuous output value having at least three states indicative of a probability. However, this feature was exceedingly well known in the art. For example, Ii discloses a neural network for pattern recognition that comprises a probability function comprising a plurality of variables and a substantially continuous output value having at least three states indicative of a probability (page 2, paragraphs 17-22 and figures 1-2).

Breed and Ii are combinable because they are both concerned with neural network pattern recognition systems. Ii provides an enhanced pattern recognition system that could be applied to image analysis in a variety of different applications (page 1, paragraph 13). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the neural network of Breed in view of Ii. The suggestion/motivation for doing so would have been to

enhance the system by identifying and reducing errors during the pattern recognition process (Ii, page 1, paragraph 5). Therefore, it would have been obvious to combine Breed with Ii to obtain the invention as specified in claim 20.

Referring to claim 24, Breed further discloses that the controller is further configured to determine whether at least one light source is either a headlight of an oncoming vehicle, a taillight of a leading vehicle or a non-vehicular light source as a function of the neural network analysis (col. 16, line 66-col. 17, line 19 and col. 20, lines 12-38). As noted above, Ii discloses a neural network comprising a probability function. Thus, the combination of Breed and Ii determine whether at least one light source is either a headlight of an oncoming vehicle, a taillight of a leading vehicle or a non-vehicular light source as a function of the probability function.

Referring to claim 25, Breed further discloses that the determination is further a function of the brightness of the light source (col. 20, lines 12-38).

Referring to claim 27, Breed and Ii do not explicitly disclose that the probability function is selected from the group comprising a first order equation, a second order equation, a third order equation and a fourth order equation. However, Official notice is taken that probability functions selected from the group comprising a first order equation, a second order equation, a third order equation and a fourth order equation were exceedingly well known in the art. Therefore, it would have been obvious to modify the probability function of Breed and Ii so that it is selected from the group comprising a first order equation, a second order equation, a third order equation and a fourth order equation. The suggestion/motivation for doing so would have been to enhance the flexibility of the vehicular exterior light control system.

Referring to claim 28, Breed discloses an automatic vehicular exterior light control, comprising a controller configured to generate at least one exterior light control signal as a function of at a neural network (col. 20, lines 12-38), but does not explicitly disclose that the neural network comprises a probability function having a substantially continuous output value having at least three states. However, this feature was exceedingly well known in the art. For example, Ii discloses a neural network for pattern recognition that comprises a probability function comprising a plurality of variables, a plurality of weighting factors and an output value having at least three states (page 2, paragraphs 17-22 and figures 1-2).

Breed and Ii are combinable because they are both concerned with neural network pattern recognition systems. Ii provides an enhanced pattern recognition system that could be applied to image analysis in a variety of different applications (page 1, paragraph 13). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the neural network of Breed in view of Ii. The suggestion/motivation for doing so would have been to enhance the system by identifying and reducing errors during the pattern recognition process (Ii, page 1, paragraph 5). Therefore, it would have been obvious to combine Breed with Ii to obtain the invention as specified in claim 28.

Referring to claim 35, Ii further discloses that the neural network further comprises at least one output that comprises a substantially continuous value indicative of a probability (page 2, paragraphs 17-22 and figures 1-2).

Referring to claim 36, Breed further discloses that the weighting factors are determined experimentally by examining at least one image containing at least one known light source [Gorman, pages 1135-1139. Breed incorporates by reference Gorman. Gorman explains that the

weighting factors are determined experimentally by examining data that contains at least one known value (training set), see page 1136. Note that Gorman's system is used for analyzing sonar data, and therefore the known value (training set) comprises known sonar values. However, Breed utilizes the trained pattern recognition system to analyze images of light sources. Thus, the known data (training set) in Breed's system would comprise at least one image containing at least one known light source].

Referring to claim 37 and 38, see the discussion of at least claim 36 above. Breed further discloses that the weighting factors are determined by examining statistical data that is derived from a plurality of images containing known light sources (Gorman, pages 1135-1136. Breed incorporates by reference Gorman).

Referring to claim 39, see the rejection of at least claim 27 above.

5. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Breed et al., U.S. Patent No. 6,393,133 ("Breed"), Ii et al., U.S. Patent Application Publication No. 2004/0032981 ("Ii"), and Stam et al., U.S. Patent No. 6,049,171 ("Stam").

Referring to claim 26, Breed does not explicitly disclose that the determination is further a function of any AC flicker that may be present in the light source. However, this feature was exceedingly well known in the art. For example, Stam discloses the determination of a type of light source based on a function of any AC flicker that may be present in the light source (col. 11, line 66-col. 12, line 13).

Breed and Stam are combinable because they are both concerned with automatic vehicular exterior light control systems. At the time of the invention, it would have been obvious

to a person of ordinary skill in the art to modify the determination step of Breed so that it is based on a function of any AC flicker that may be present in the light source, as taught by Stam. The suggestion/motivation for doing so would have been to enhance the flexibility of the light source determination process by providing the capability of detecting a variety of different types of light sources. Therefore, it would have been obvious to combine Breed with Stam to obtain the invention as specified in claim 26.

6. Claims 43, 70, 72, 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Breed et al., U.S. Patent No. 6,393,133 ("Breed") and Stam et al., U.S. Patent No. 6,049,171 ("Stam").

Referring to claim 43, Breed does not explicitly disclose that at least one of the transition states comprises a series of levels and movement between levels is a function of light source brightness. However, this feature was exceedingly well known in the art. For example, Stam discloses a vehicular exterior light transition state that comprises a series of levels and movement between levels is a function of light source brightness (col. 8, line 13-col. 9, line 27).

Breed and Stam are combinable because they are both concerned with automatic vehicular exterior light control systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the transition state of Breed so that it comprises a series of levels and movement between levels is a function of light source brightness, as taught by Stam. The suggestion/motivation for doing so would have been to enhance the flexibility of the light control system by providing multiple levels of light transition. Therefore, it would have been obvious to combine Breed with Stam to obtain the invention as specified in claim 43.

Referring to claim 70, Breed does not explicitly disclose that input variables are selected from a group of light source characteristics comprising: peak brightness, total brightness, centroid location, gradient, width, height, color, x-direction motion, y-direction motion, brightness change, age, average x-direction motion, average y-direction motion, motion jitter, a change in brightness that correlates to a change in brightness of an exterior light of a controlled vehicle and average brightness change. However, this feature was exceedingly well known in the art. For example, Stam discloses input variables that comprise color and brightness change (col. 9, line 58-col. 10, line 67 and col. 15, lines 3-23).

Breed and Stam are combinable because they are both concerned with automatic vehicular exterior light control systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the system of Breed so that it includes the input variables of Stam. The suggestion/motivation for doing so would have been to enhance the performance of the lighting control system by providing additional information that could be utilized to control the vehicular exterior lighting. Therefore, it would have been obvious to combine Breed with Stam to obtain the invention as specified in claim 70.

Referring to claim 72, see the rejection of at least claim 70 above.

Referring to claim 73 as best understood, Breed does not explicitly disclose input variables that are selected from a group of controlled vehicle associated operating parameters comprising: vehicle speed, ambient light level, vehicle turn rate, lane tracking, vehicle pitch, vehicle yaw, geographic location and road type. However, this feature was exceedingly well known in the art. For example, Stam discloses input variables that comprise vehicle speed, ambient light level, and vehicle pitch (col. 7, line 26-col. 8, line 63).

Breed and Stam are combinable because they are both concerned with automatic vehicular exterior light control systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the system of Breed so that it includes the input variables of Stam. The suggestion/motivation for doing so would have been to enhance the performance of the lighting control system by providing additional information that could be utilized to control the vehicular exterior lighting. Therefore, it would have been obvious to combine Breed with Stam to obtain the invention as specified in claim 73.

(10) Response to Argument

I. With regards to the objection of claim 41 under 37 CFR § 1.75 (d)(1), Applicants argue (Brief, page 18) that the features of claim 41 are explicitly depicted and described in "excruciating detail" in figures 14-17 and paragraphs 119-127. However, the Examiner was unable to find an instance in the entire description of the specification, let alone paragraphs 119-127, which describes the "TAILLAMP OVERTAKE" and "RAIN condition clear" conditions recited in claim 41. Additionally, figures 14-17 merely illustrate a flow chart and transition charts for the light control. These figures fail to describe, in *any* detail, the conditions listed above and recited in claim 41.

Applicants further contend (*Id.*) that because claim 41 is an originally presented claim, they may rely upon its content as forming a part of the original specification. In response, the Examiner would like to point out that claim 41 was objected to because the claimed features were neither clearly supported by nor had proper antecedent basis in the description of the specification—not because the claimed features were not part of the original specification. Applicants appear to have mistaken the objection under 37 CFR 1.75 as a 112 first paragraph rejection for the written description requirement. In order to overcome the objection under 37 CFR 1.75, the Examiner suggested Applicants to amend the description of the specification so that it provides antecedent basis for the claimed limitations. Applicants have refused to do so.

II. With regards to the claim rejections, Applicants essentially argue two points (Brief pages 19 and 24).

First, Applicants contend that for claims 1 and 20, "The Gorman article, in stark contrast, does not even purport to teach the fundamentals of neural networks or probability functions, let alone how one of ordinary skill in the art would implement either for the purpose of automatic vehicle exterior light control." (*Id.*) In response, the Examiner would like to point out that the Gorman article was not relied upon for the rejections of claims 1 and 20. As explained above in the grounds of rejection, Breed sufficiently discloses a classification neural network for an automatic vehicle exterior light control, as recited in claims 1 and 20. Nonetheless, the Examiner would like to point out that the Gorman article, contrary to what Applicants contend, teaches the fundamentals of neural networks. For instance, in Figure 2, Gorman illustrates a parallel learning classification network comprising hidden layers of processing units. Gorman explains that each layer has modifiable weights on both the input and output connections, which are used during the training process (Page 1136). Although Gorman does not specifically refer to the network as a "neural network", one of ordinary skill at the time the invention was made would have clearly recognized Gorman's parallel learning network as a neural network. One example of such recognition is provided in the Breed reference, which relies on the Gorman article for a teaching of a pattern recognition system using "neural networks." (column 5, lines 9-20). Thus, the Examiner contends that Gorman teaches the fundamentals of neural networks.

Second, Applicants argue (Brief, pages 19 and 24) that "there are only two paragraphs in the last column of the detail description of Breed et al. that even mention automatic vehicular exterior lighting control as disclosed and claimed in the present application; these paragraphs do

not even suggest how one would implement a neural network or trained pattern recognition in a automatic vehicular exterior lighting control." While the Examiner agrees with the former that there are only two paragraphs in the last column of the Breed reference that refers to automatic vehicular exterior lighting control, the Examiner disagrees with Applicants' latter contention. To the contrary, the Examiner would like to point out that Breed provides ample support for implementing a neural network or trained pattern recognition in an automatic vehicular exterior lighting control. For example, Breed states:

> [T]he pattern recognition system is trained to recognize the pattern of the headlights of an oncoming vehicle or the tail lights of a vehicle in front of vehicle 810 and to then dim the headlights when either of these conditions is sensed. (column 20, lines 20-23).

Breed further explains that the pattern recognition algorithm used for this application is an "artificial neural network" (column. 20, lines 16-18). Therefore, notwithstanding Applicants' arguments to the contrary, the Examiner finds Breed's disclosure sufficient for a teaching of using a neural network or trained pattern recognition in an automatic vehicular exterior lighting control.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Charles Kim
Patent Examiner
Art Unit 2624
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July 6, 2007

Conferees:

Jingge Wu

Samir Ahmed

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

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July 6, 2007

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